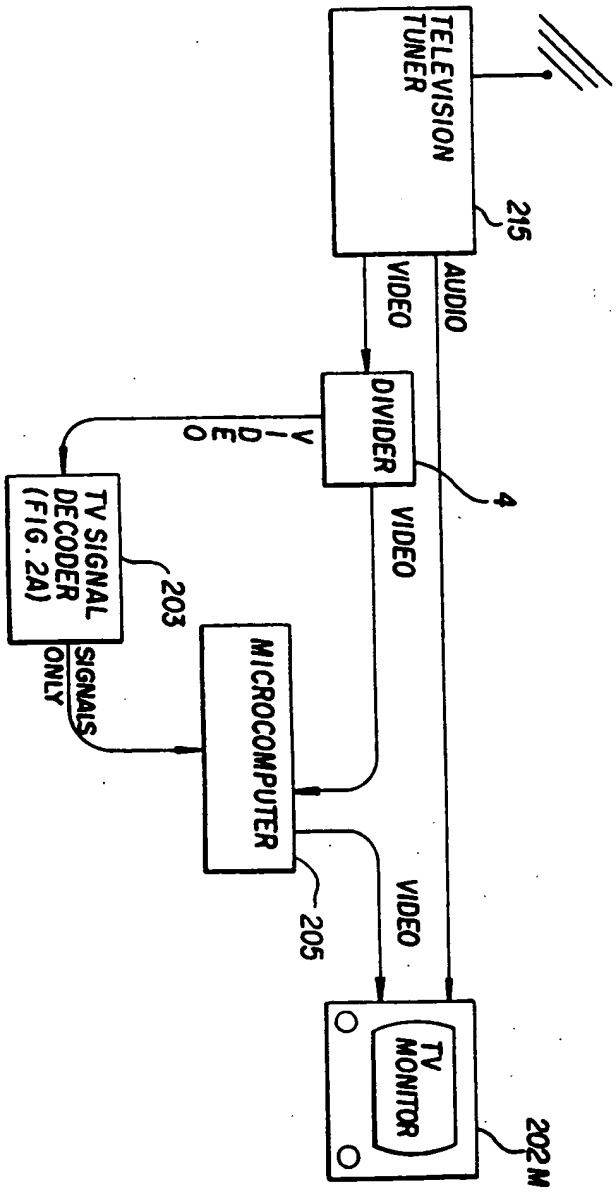
TELEVISION TUNER
215
VIDEO
AUDIO
DIVIDER
VIDEO
4
TV SIGNAL DECODER (FIG. 2A)
203
SIGNALS ONLY
MICROCOMPUTER
VIDEO
205
TV MONITOR
202M

FIG. 1

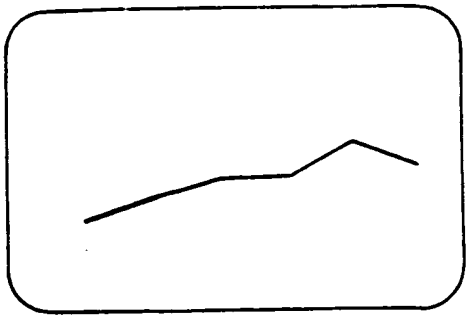

FIG. 1A

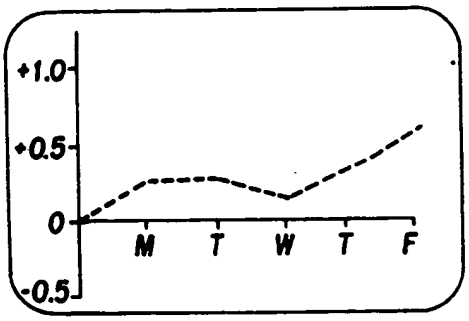

FIG. 1B

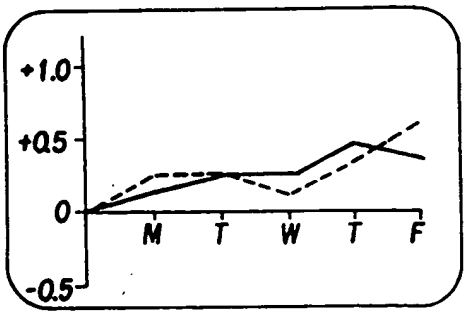

FIG. 1C

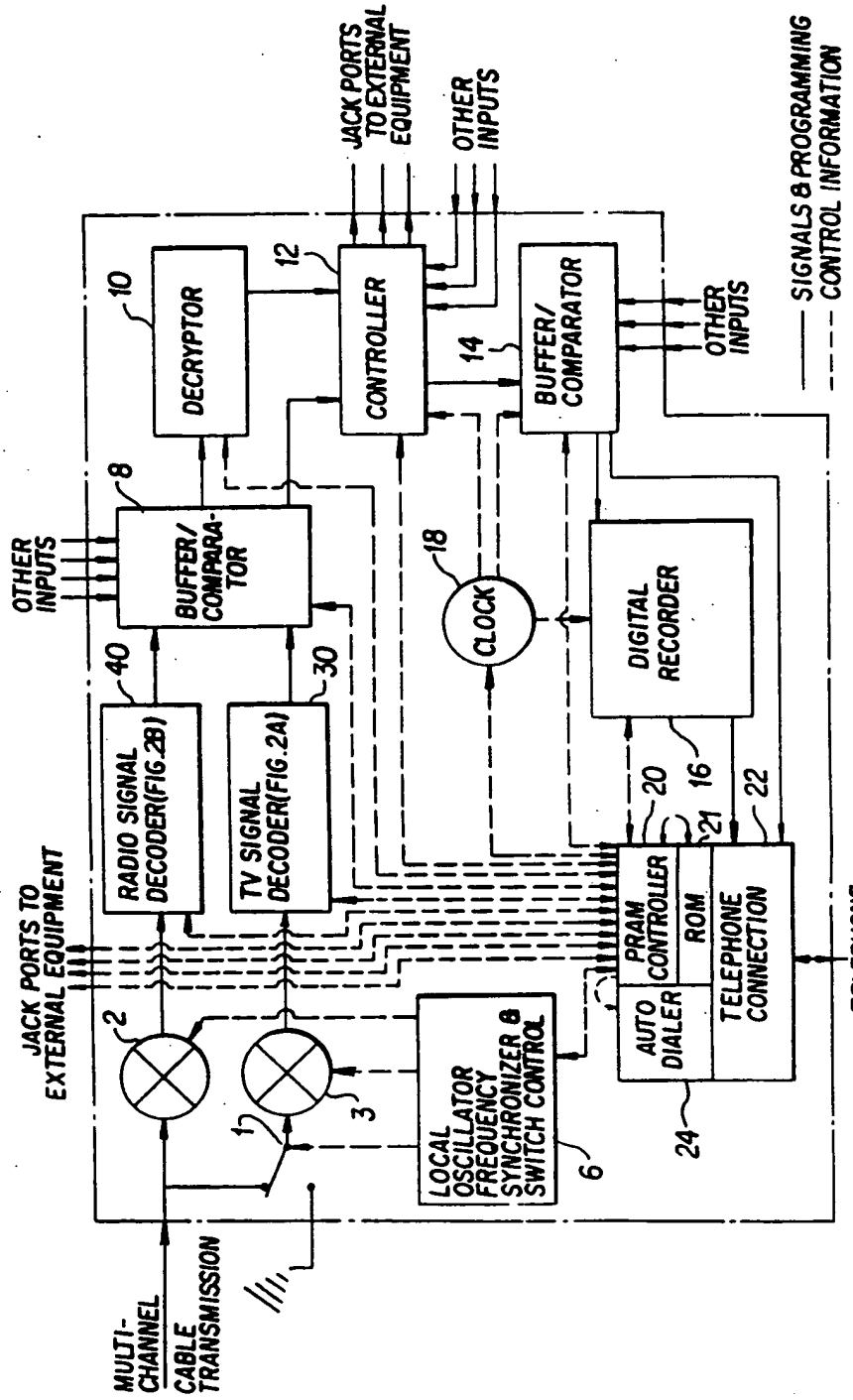
JACK PORTS TO EXTERNAL EQUIPMENT
OTHER INPUTS
SIGNALS & PROGRAMMING
CONTROL INFORMATION
DECRYPTOR
CONTROLLER
BUFFER/ COMPARATOR
OTHER INPUTS
BUFFER/ COMPARATOR
CLOCK
DIGITAL RECORDER
RADIO SIGNAL DECODER(FIG.2B)
TV SIGNAL DECODER(FIG.2A)
JACK PORTS TO EXTERNAL EQUIPMENT
PRAM CONTROLLER
ROM
AUTO DIALER
TELEPHONE CONNECTION
TELEPHONE OR OTHER DATA TRANSFER NETWORK
LOCAL OSCILLATOR FREQUENCY SYNCHRONIZER & SWITCH CONTROL
MULTI-CHANNEL CABLE TRANSMISSION
10
12
14
8
18
40
30
20
16
21
22
2
3
1
6
24

FIG. 2

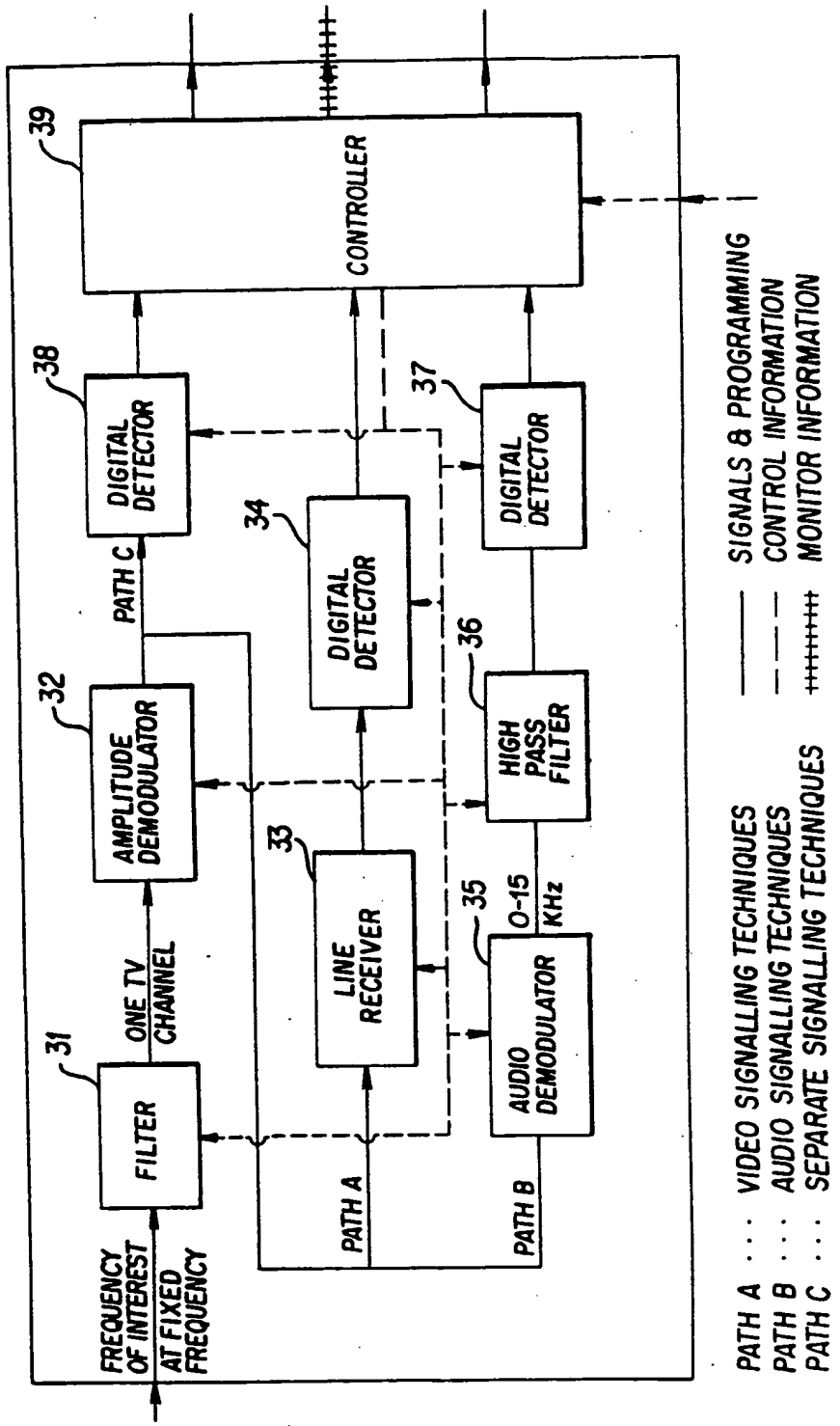
39
CONTROLLER
38
DIGITAL DETECTOR
37
DIGITAL DETECTOR
34
DIGITAL DETECTOR
PATH C
32
AMPLITUDE DEMODULATOR
36
HIGH PASS FILTER
33
LINE RECEIVER
35
0-15 KHz
AUDIO DEMODULATOR
31
FILTER
ONE TV CHANNEL
FREQUENCY OF INTEREST AT FIXED FREQUENCY
PATH A
PATH B
SIGNALS & PROGRAMMING
CONTROL INFORMATION
MONITOR INFORMATION
PATH A . . . VIDEO SIGNALLING TECHNIQUES
PATH B . . . AUDIO SIGNALLING TECHNIQUES
PATH C . . . SEPARATE SIGNALLING TECHNIQUES

FIG. 2A

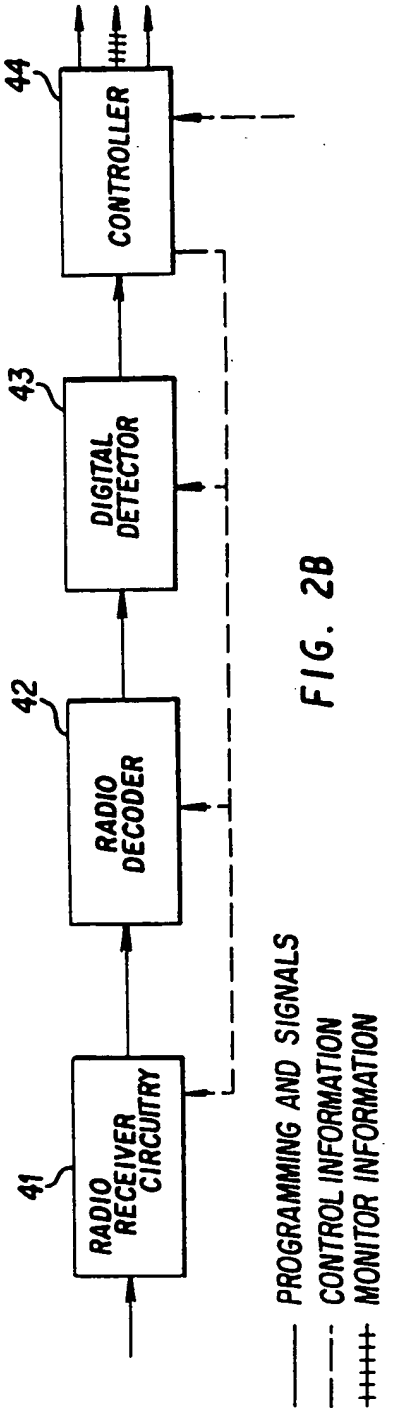
44
CONTROLLER
43
DIGITAL DETECTOR
42
RADIO DECODER
41
RADIO RECEIVER CIRCUITRY
PROGRAMMING AND SIGNALS
CONTROL INFORMATION
MONITOR INFORMATION

FIG. 2B

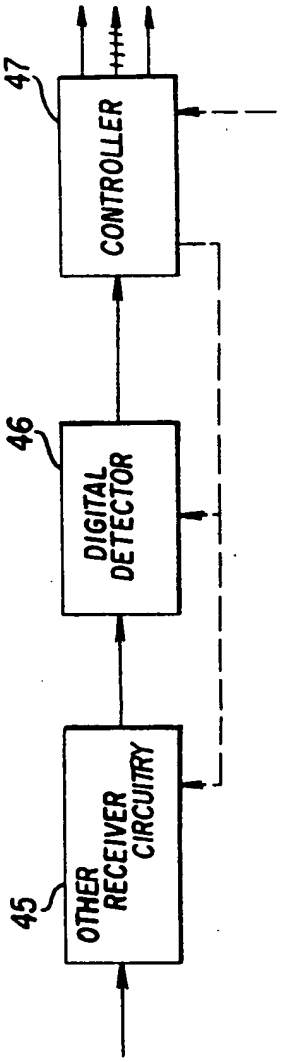
47
CONTROLLER
46
DIGITAL DETECTOR
45
OTHER RECEIVER CIRCUITRY

FIG. 2C

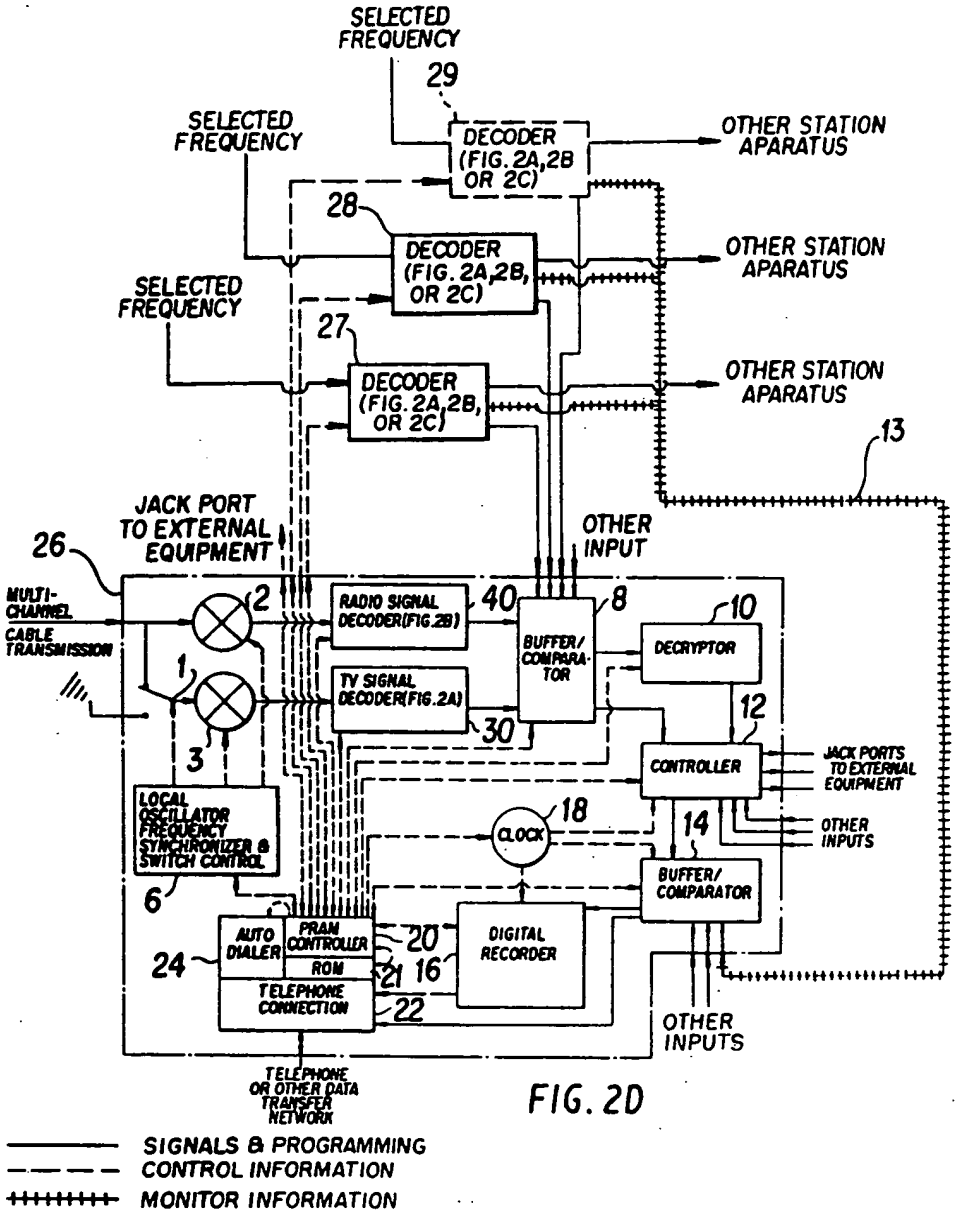

FIG. 2D

SIGNALS & PROGRAMMING
CONTROL INFORMATION
MONITOR INFORMATION

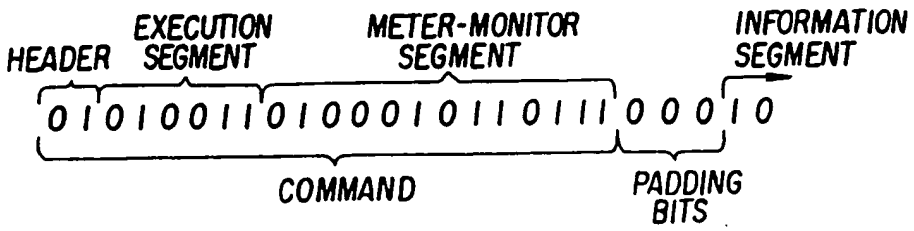

FIG. 2E

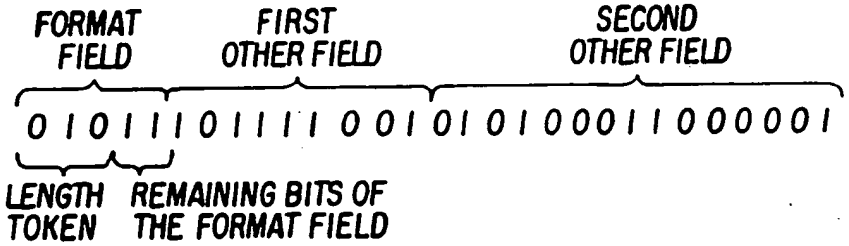

FIG. 2F

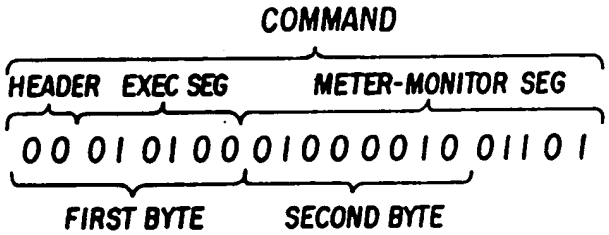

FIG. 2G

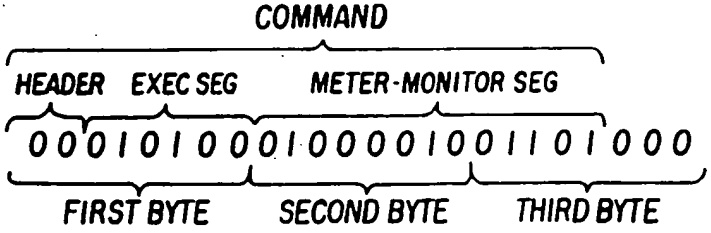

FIG. 2H

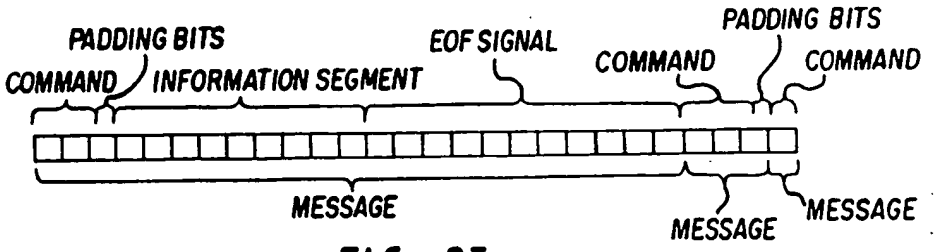

FIG. 2I

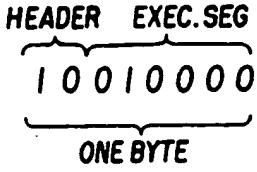

FIG. 2J

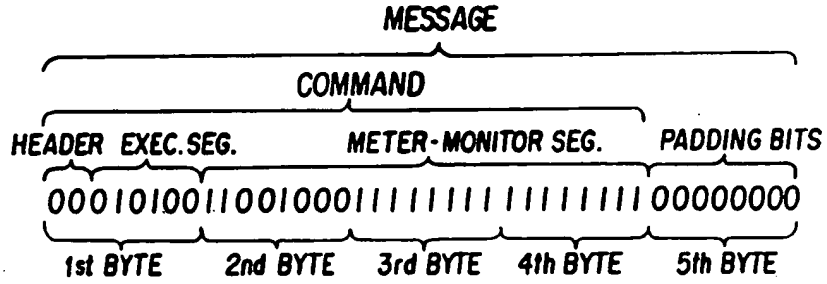

FIG. 2K

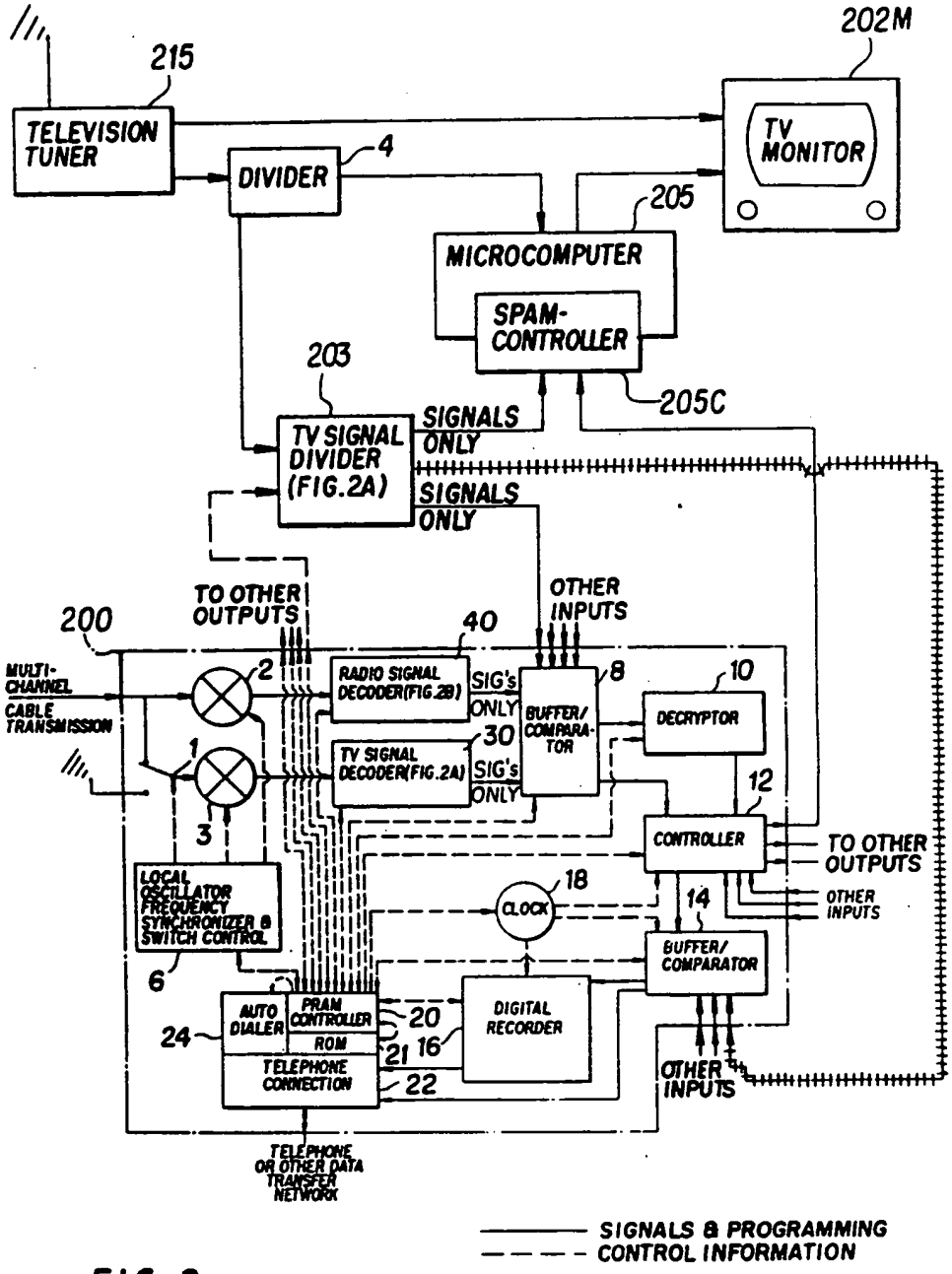
202M
215
TELEVISION TUNER
DIVIDER
4
TV MONITOR
205
MICROCOMPUTER
SPAM-CONTROLLER
203
205C
TV SIGNAL DIVIDER (FIG.2A)
SIGNALS ONLY
SIGNALS ONLY
TO OTHER OUTPUTS
OTHER INPUTS
200
40
MULTI-CHANNEL CABLE TRANSMISSION
2
1
3
RADIO SIGNAL DECODER(FIG.2B)
TV SIGNAL DECODER(FIG.2A)
SIG's ONLY
SIG's ONLY
30
8
BUFFER/ COMPARATOR
10
DECRYPTOR
12
CONTROLLER
TO OTHER OUTPUTS
OTHER INPUTS
LOCAL OSCILLATOR FREQUENCY SYNCHRONIZER & SWITCH CONTROL
6
18
CLOCK
14
BUFFER/ COMPARATOR
AUTO DIALER
PRAM CONTROLLER
ROM
TELEPHONE CONNECTION
24
20
21
16
22
DIGITAL RECORDER
OTHER INPUTS
TELEPHONE OR OTHER DATA TRANSFER NETWORK
SIGNALS & PROGRAMMING
CONTROL INFORMATION

FIG. 3

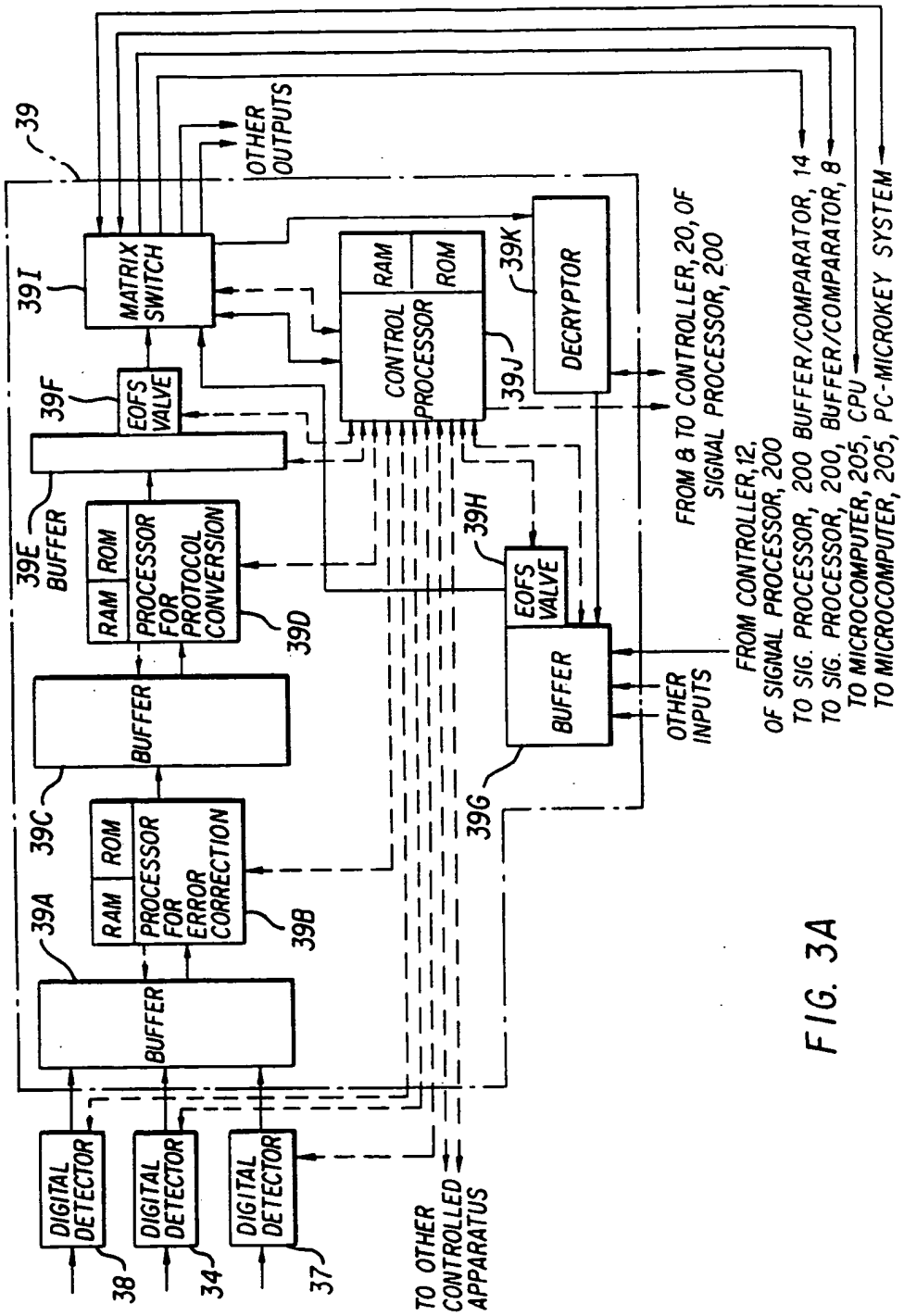
39
OTHER OUTPUTS
39I
MATRIX SWITCH
RAM
ROM
CONTROL PROCESSOR
39K
DECRYPTOR
39F
EOFS VALVE
39E BUFFER
RAM
ROM
PROCESSOR FOR PROTOCOL CONVERSION
39D
39H
EOFS VALVE
BUFFER
39C
RAM
ROM
PROCESSOR FOR ERROR CORRECTION
39B
39A
BUFFER
39G
DIGITAL DETECTOR
DIGITAL DETECTOR
DIGITAL DETECTOR
38
34
37
TO OTHER CONTROLLED APPARATUS
FROM 8 TO CONTROLLER, 20, OF SIGNAL PROCESSOR, 200
OTHER INPUTS
FROM CONTROLLER, 12, OF SIGNAL PROCESSOR, 200
TO SIG. PROCESSOR, 200 BUFFER/COMPARATOR, 14
TO SIG. PROCESSOR, 200, BUFFER/COMPARATOR, 8
TO MICROCOMPUTER, 205, CPU
TO MICROCOMPUTER, 205, PC-MICROKEY SYSTEM

FIG. 3A

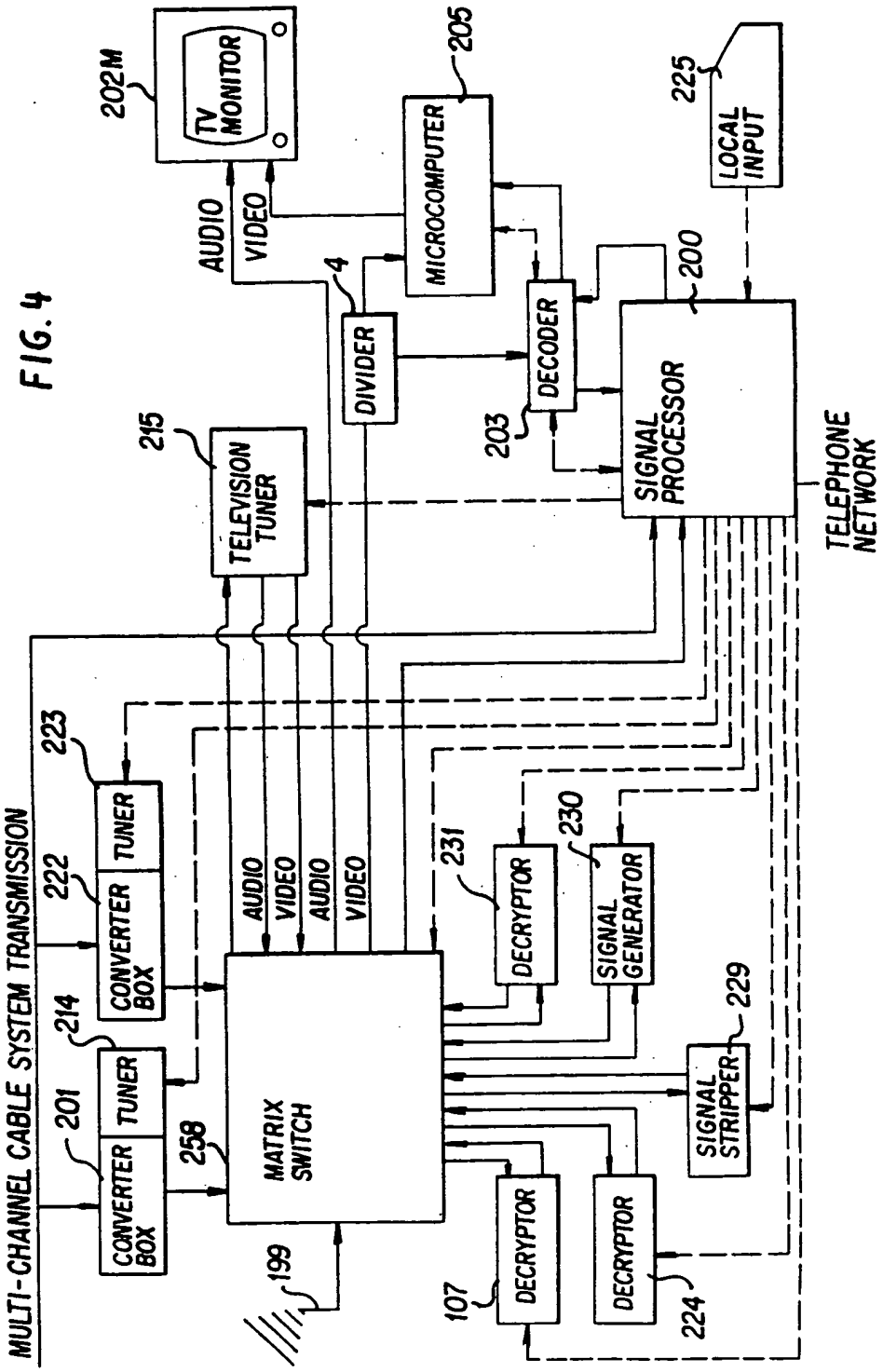
202M
TV MONITOR
AUDIO
VIDEO
205
MICROCOMPUTER
225
LOCAL INPUT
4
DIVIDER
DECODER
203
200
SIGNAL PROCESSOR
TELEPHONE NETWORK
215
TELEVISION TUNER
MULTI-CHANNEL CABLE SYSTEM TRANSMISSION
223
TUNER
222
CONVERTER BOX
214
TUNER
201
CONVERTER BOX
258
MATRIX SWITCH
199
AUDIO
VIDEO
AUDIO
VIDEO
231
DECRYPTOR
230
SIGNAL GENERATOR
229
SIGNAL STRIPPER
107
DECRYPTOR
DECRYPTOR
224

FIG. 4

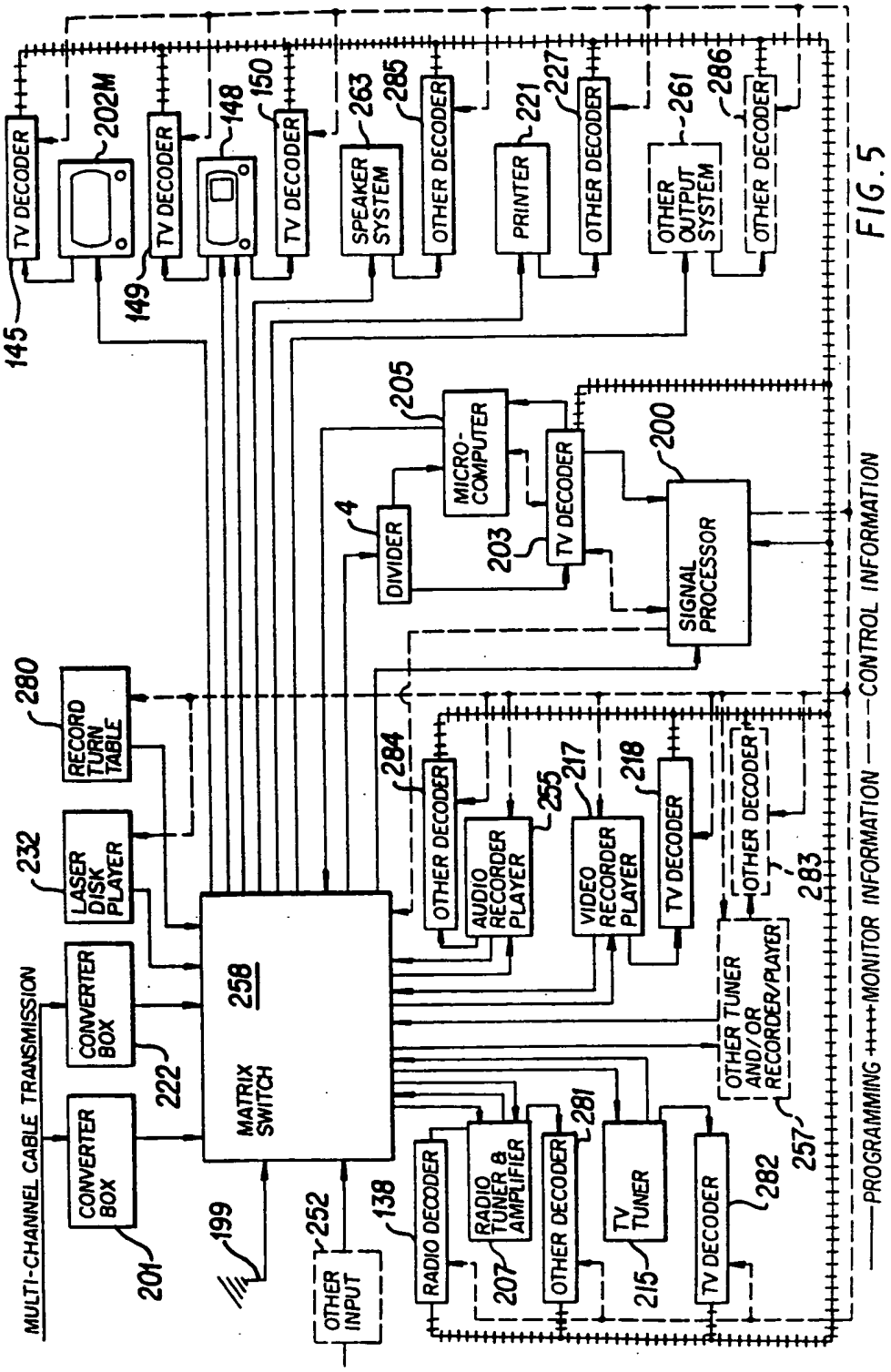
TV DECODER
202M
TV DECODER
148
150
TV DECODER
SPEAKER SYSTEM
263
285
OTHER DECODER
PRINTER
221
227
OTHER DECODER
OTHER OUTPUT SYSTEM
261
286
OTHER DECODER
145
149
205
MICRO-COMPUTER
4
DIVIDER
203
TV DECODER
200
SIGNAL PROCESSOR
280
RECORD TURN TABLE
232
LASER DISK PLAYER
284
OTHER DECODER
AUDIO RECORDER PLAYER
255
217
VIDEO RECORDER PLAYER
218
TV DECODER
OTHER DECODER
283
OTHER TUNER AND/OR RECORDER/PLAYER
257
MULTI-CHANNEL CABLE TRANSMISSION
CONVERTER BOX
222
CONVERTER BOX
201
MATRIX SWITCH
258
199
252
OTHER INPUT
138
RADIO DECODER
RADIO TUNER & AMPLIFIER
207
OTHER DECODER
281
TV TUNER
215
TV DECODER
282
PROGRAMMING ++++ MONITOR INFORMATION ---- CONTROL INFORMATION

FIG. 5

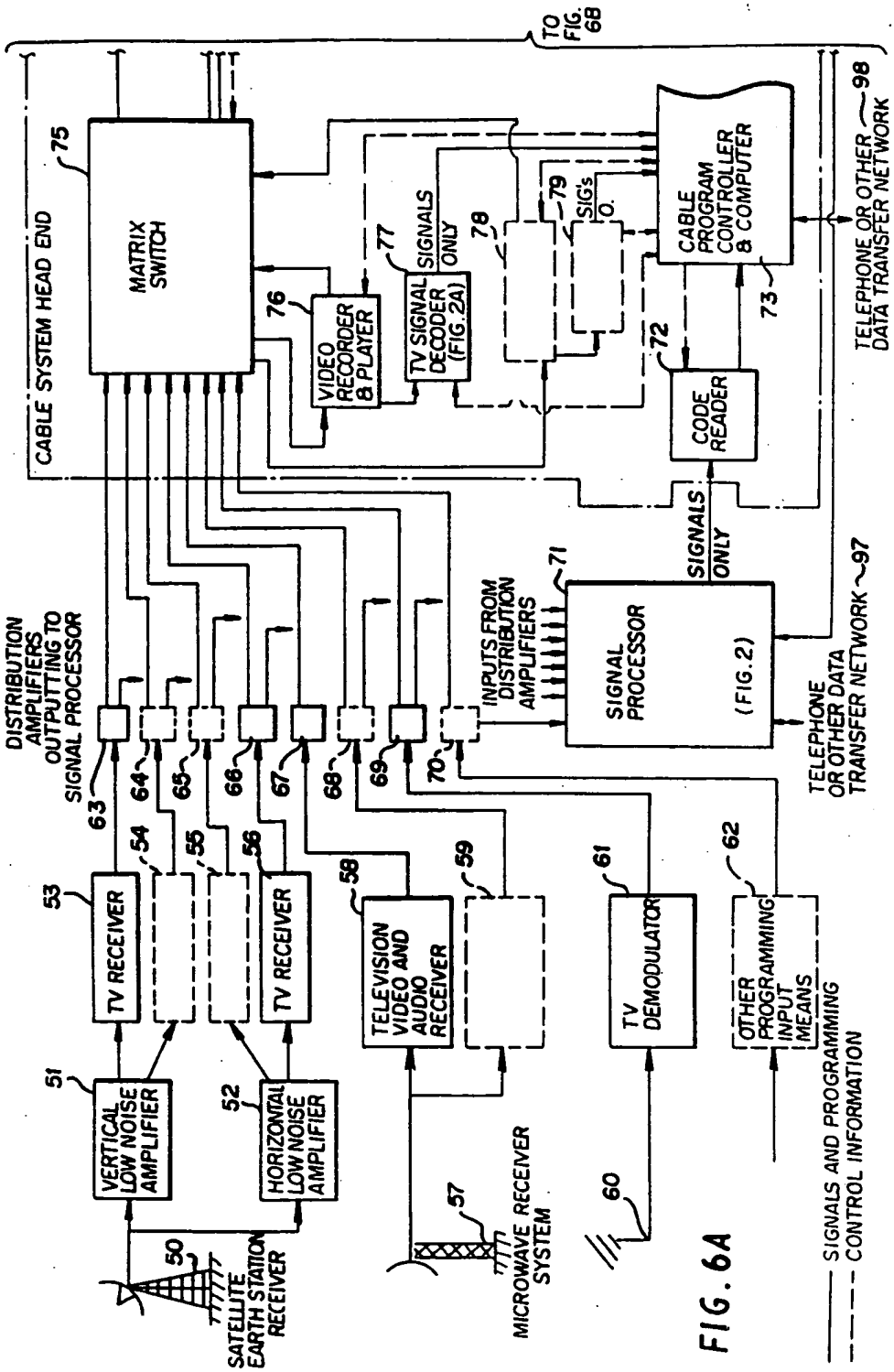
TO FIG. 68
CABLE SYSTEM HEAD END
MATRIX SWITCH
VIDEO RECORDER & PLAYER
TV SIGNAL DECODER (FIG. 2A)
SIGNALS ONLY
SIG's
CABLE PROGRAM CONTROLLER & COMPUTER
CODE READER
TELEPHONE OR OTHER DATA TRANSFER NETWORK
DISTRIBUTION AMPLIFIERS OUTPUTTING TO SIGNAL PROCESSOR
INPUTS FROM DISTRIBUTION AMPLIFIERS
SIGNAL PROCESSOR (FIG. 2)
TELEPHONE OR OTHER DATA TRANSFER NETWORK
TV RECEIVER
TELEVISION VIDEO AND AUDIO RECEIVER
TV DEMODULATOR
OTHER PROGRAMMING INPUT MEANS
VERTICAL LOW NOISE AMPLIFIER
HORIZONTAL LOW NOISE AMPLIFIER
SATELLITE EARTH STATION RECEIVER
MICROWAVE RECEIVER SYSTEM
SIGNALS AND PROGRAMMING
CONTROL INFORMATION

FIG. 6A

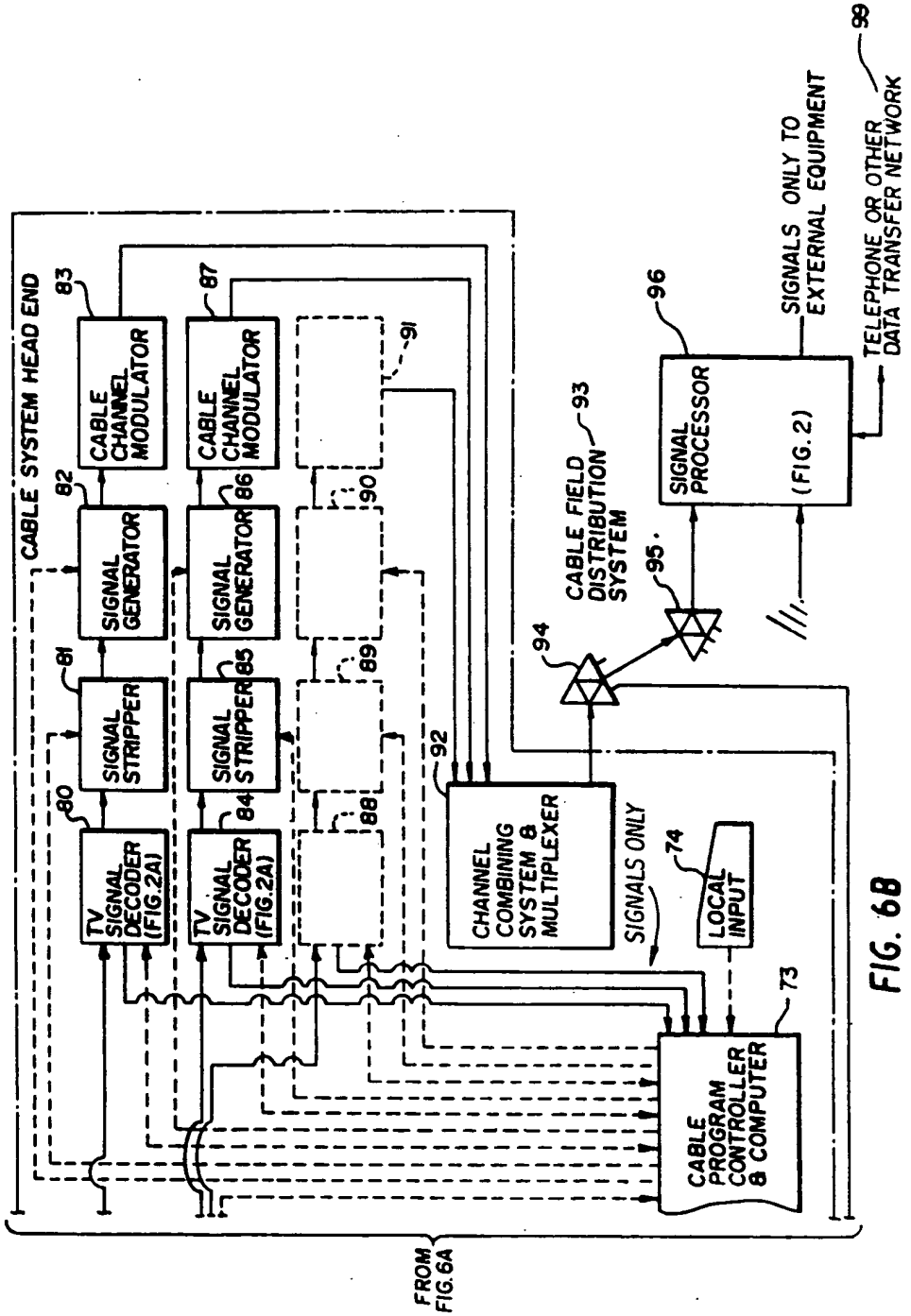
CABLE SYSTEM HEAD END
83
CABLE CHANNEL MODULATOR
87
CABLE CHANNEL MODULATOR
82
SIGNAL GENERATOR
86
SIGNAL GENERATOR
81
SIGNAL STRIPPER
85
SIGNAL STRIPPER
80
TV SIGNAL DECODER (FIG.2A)
84
TV SIGNAL DECODER (FIG.2A)
91
90
89
88
92
CHANNEL COMBINING SYSTEM & MULTIPLEXER
SIGNALS ONLY
74
LOCAL INPUT
73
CABLE PROGRAM CONTROLLER & COMPUTER
94
CABLE FIELD DISTRIBUTION SYSTEM
93
95
96
SIGNAL PROCESSOR
(FIG. 2)
SIGNALS ONLY TO EXTERNAL EQUIPMENT
99
TELEPHONE OR OTHER DATA TRANSFER NETWORK
FROM FIG.6A

FIG. 6B

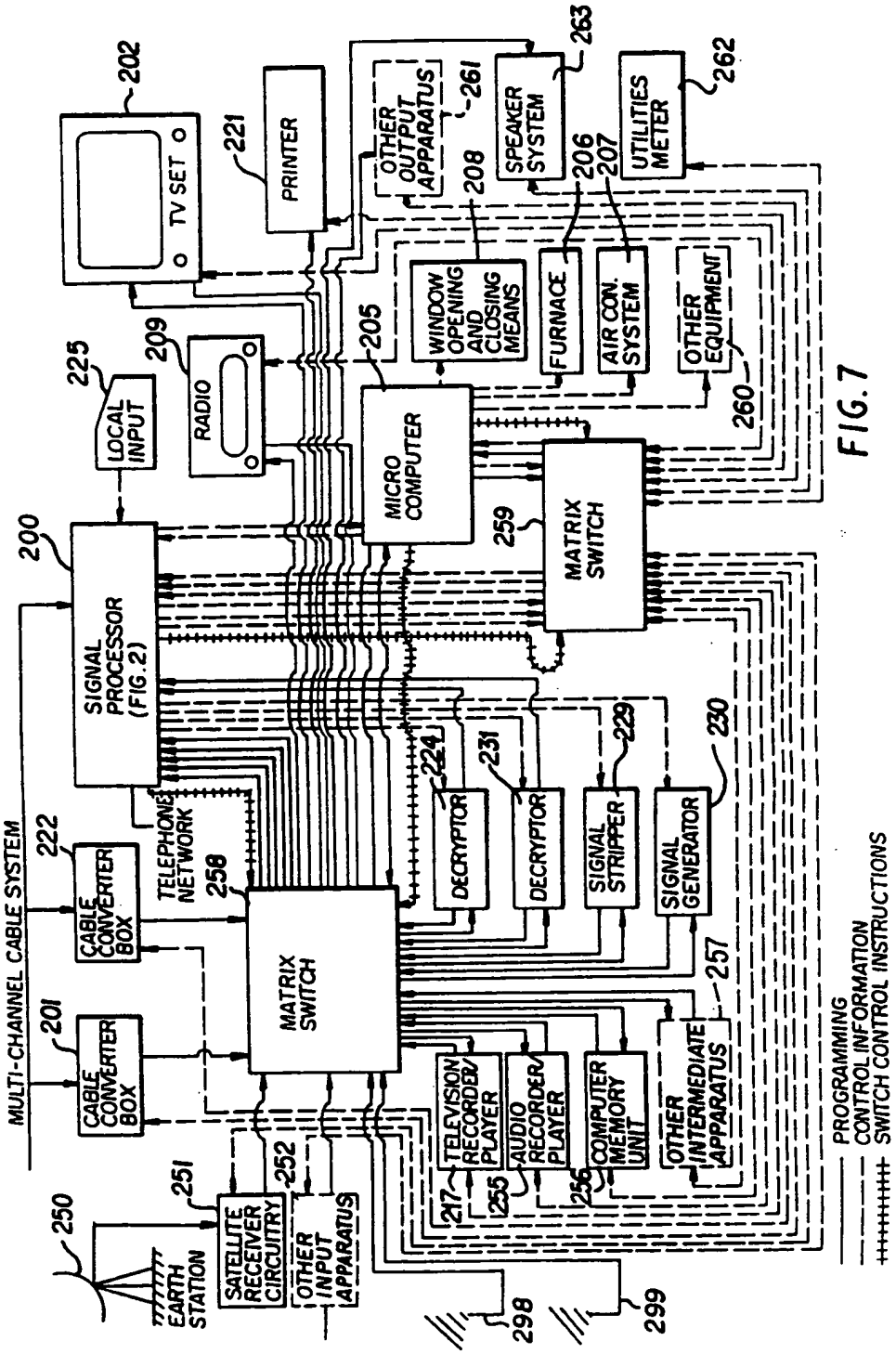
MULTI-CHANNEL CABLE SYSTEM
201
CABLE CONVERTER BOX
222
CABLE CONVERTER BOX
TELEPHONE NETWORK
258
200
SIGNAL PROCESSOR (FIG.2)
225
LOCAL INPUT
209
RADIO
202
TV SET
221
PRINTER
205
MICRO COMPUTER
261
OTHER OUTPUT APPARATUS
208
WINDOW OPENING AND CLOSING MEANS
263
SPEAKER SYSTEM
206
FURNACE
207
AIR CON. SYSTEM
262
UTILITIES METER
260
OTHER EQUIPMENT
259
MATRIX SWITCH
MATRIX SWITCH
224
DECRYPTOR
231
DECRYPTOR
229
SIGNAL STRIPPER
230
SIGNAL GENERATOR
257
OTHER INTERMEDIATE APPARATUS
256
COMPUTER MEMORY UNIT
255
AUDIO RECORDER PLAYER
217
TELEVISION RECORDER PLAYER
251
SATELLITE RECEIVER CIRCUITRY
252
OTHER INPUT APPARATUS
250
EARTH STATION
298
299
PROGRAMMING
CONTROL INFORMATION
SWITCH CONTROL INSTRUCTIONS

FIG. 7

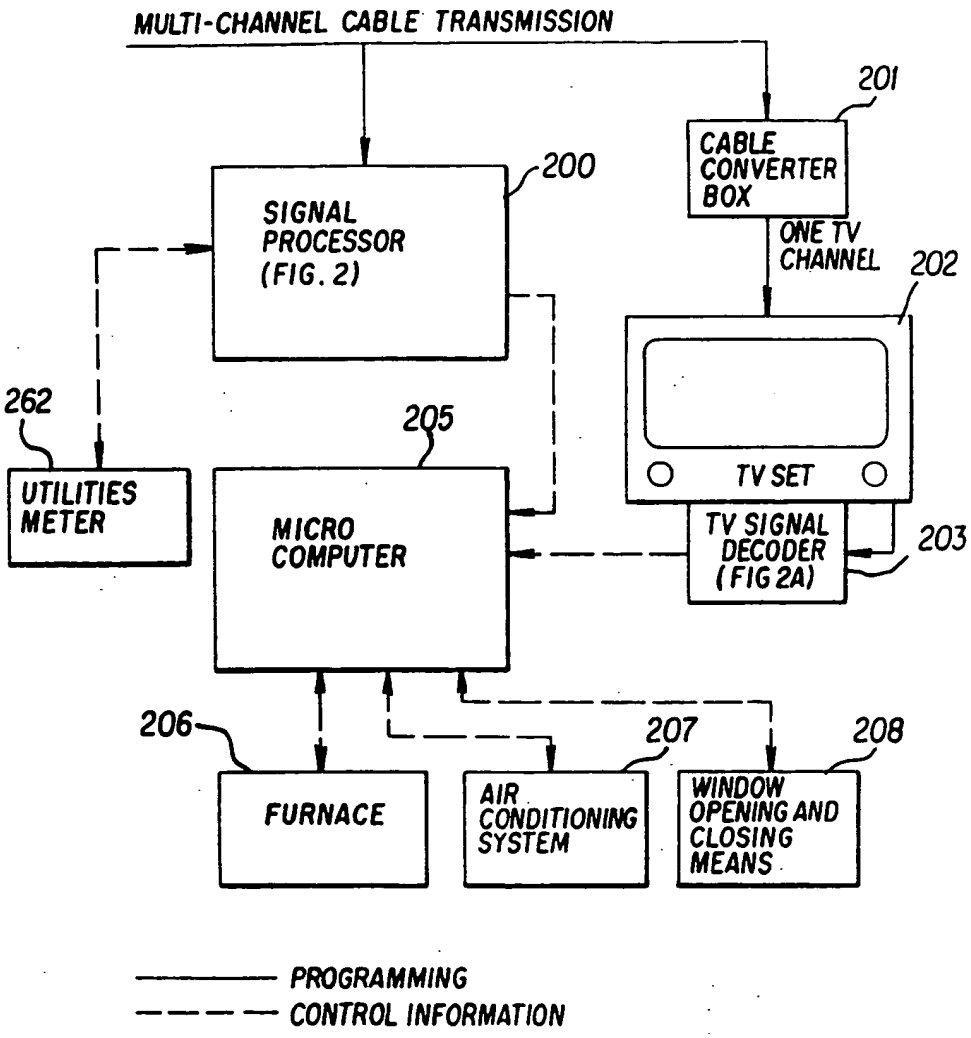
MULTI-CHANNEL CABLE TRANSMISSION
201
CABLE CONVERTER BOX
200
SIGNAL PROCESSOR (FIG. 2)
ONE TV CHANNEL
202
262
205
UTILITIES METER
MICRO COMPUTER
TV SET
TV SIGNAL DECODER (FIG 2A)
203
206
207
208
FURNACE
AIR CONDITIONING SYSTEM
WINDOW OPENING AND CLOSING MEANS
PROGRAMMING
CONTROL INFORMATION

FIG. 7A

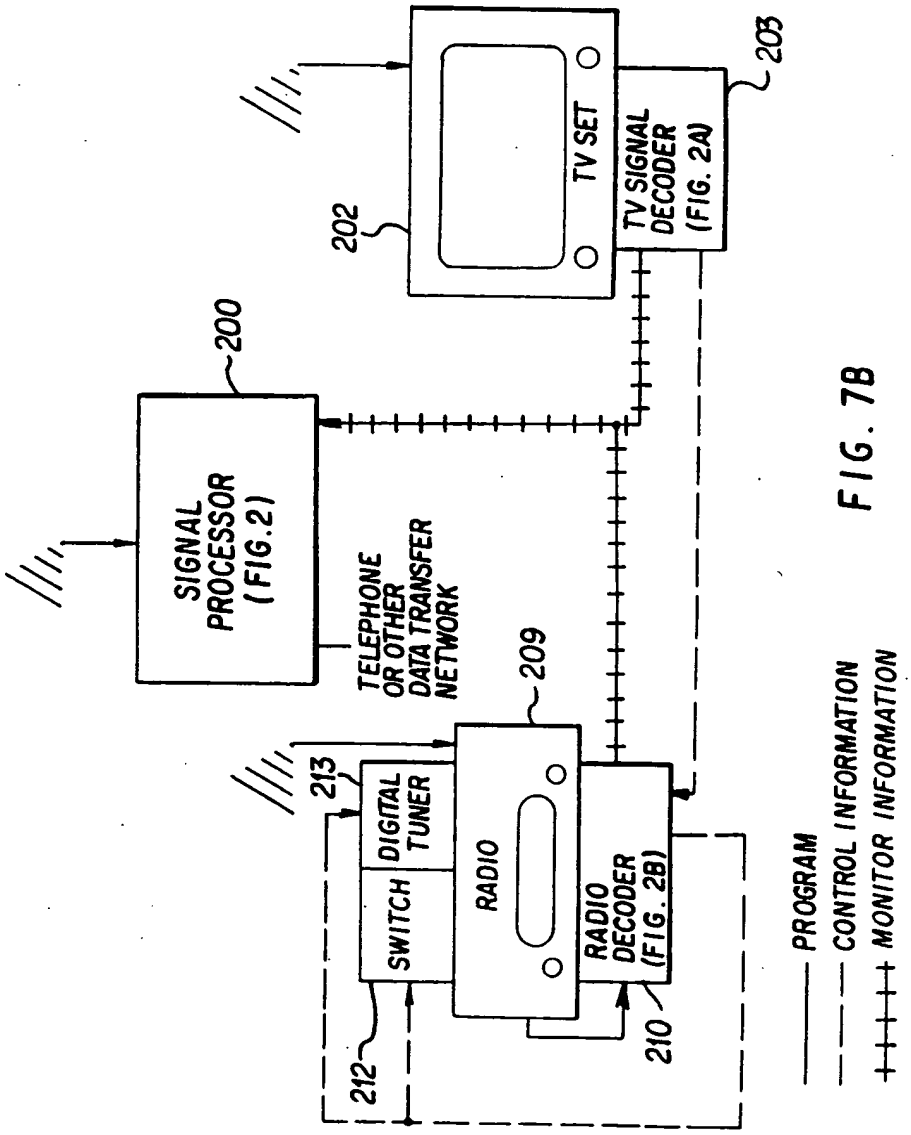
SIGNAL PROCESSOR (FIG. 2)
200
TELEPHONE OR OTHER DATA TRANSFER NETWORK
TV SET
202
TV SIGNAL DECODER (FIG. 2A)
203
209
DIGITAL TUNER
SWITCH
RADIO
RADIO DECODER (FIG. 2B)
210
212
213
PROGRAM
CONTROL INFORMATION
MONITOR INFORMATION

FIG. 7B

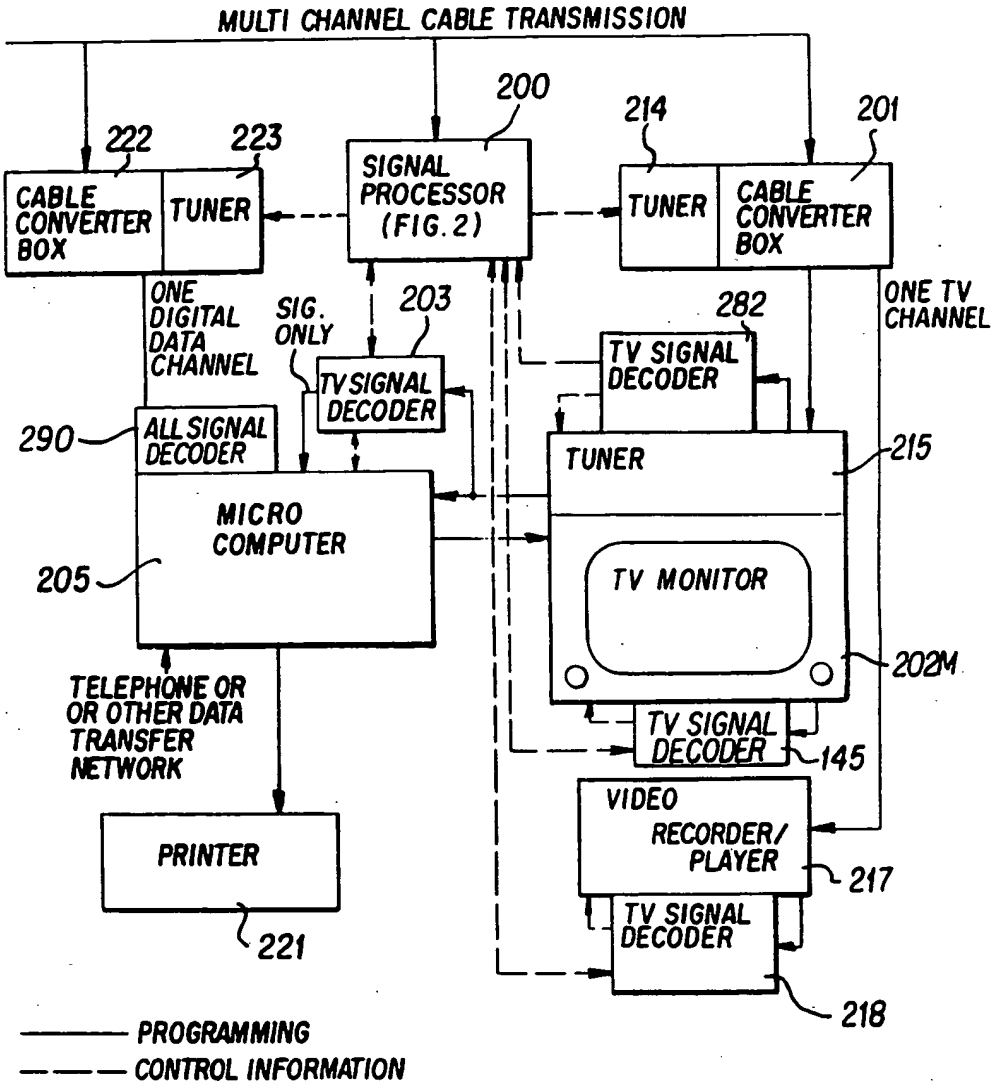
MULTI CHANNEL CABLE TRANSMISSION
200
214
201
222
223
SIGNAL PROCESSOR (FIG. 2)
CABLE CONVERTER BOX
TUNER
TUNER
CABLE CONVERTER BOX
ONE DIGITAL DATA CHANNEL
SIG. ONLY
203
282
ONE TV CHANNEL
TV SIGNAL DECODER
TV SIGNAL DECODER
290
ALL SIGNAL DECODER
TUNER
215
MICRO COMPUTER
205
TV MONITOR
202M
TELEPHONE OR OR OTHER DATA TRANSFER NETWORK
TV SIGNAL DECODER
145
VIDEO RECORDER/ PLAYER
217
PRINTER
221
TV SIGNAL DECODER
218
PROGRAMMING
CONTROL INFORMATION

FIG. 7C

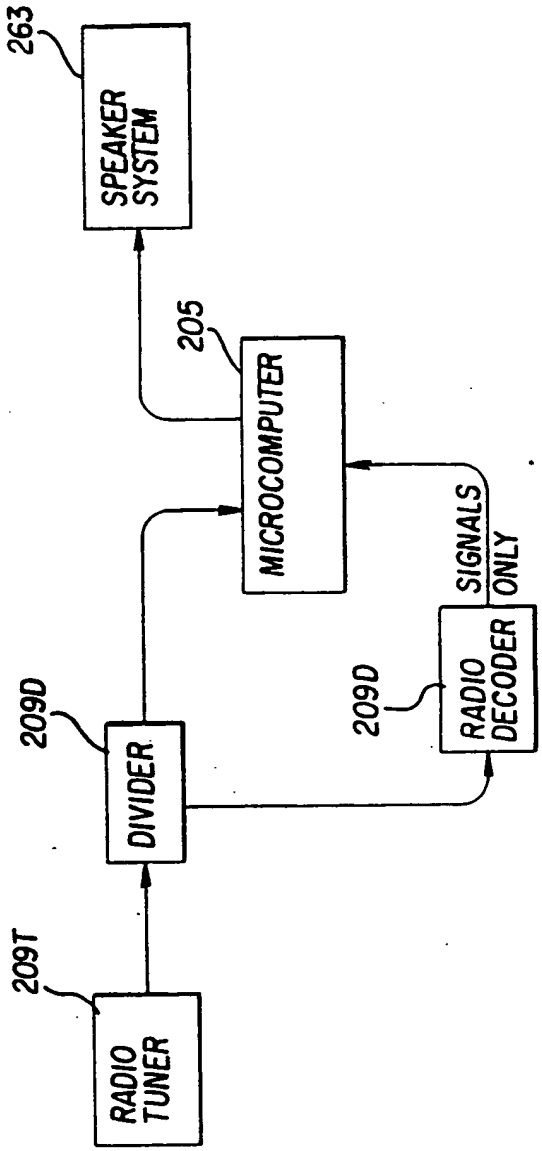
263
SPEAKER SYSTEM
205
MICROCOMPUTER
SIGNALS ONLY
209D
RADIO DECODER
209D
DIVIDER
209T
RADIO TUNER

FIG. 7D

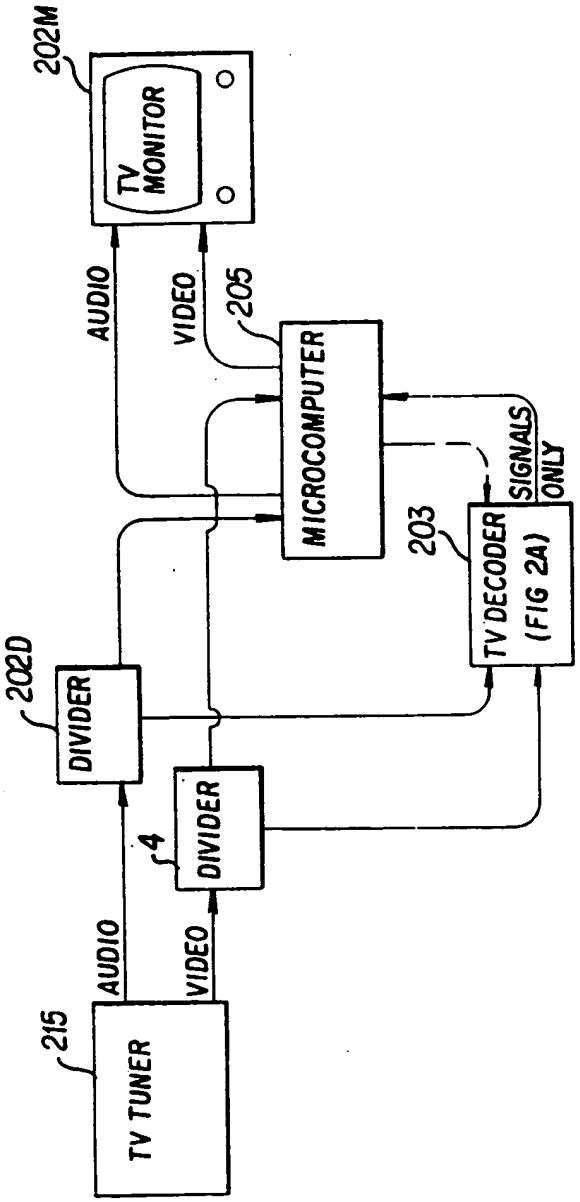
202M
TV MONITOR
AUDIO
VIDEO
205
MICROCOMPUTER
SIGNALS ONLY
203
TV DECODER (FIG 2A)
202D
DIVIDER
4
DIVIDER
AUDIO
VIDEO
215
TV TUNER

FIG. 7E

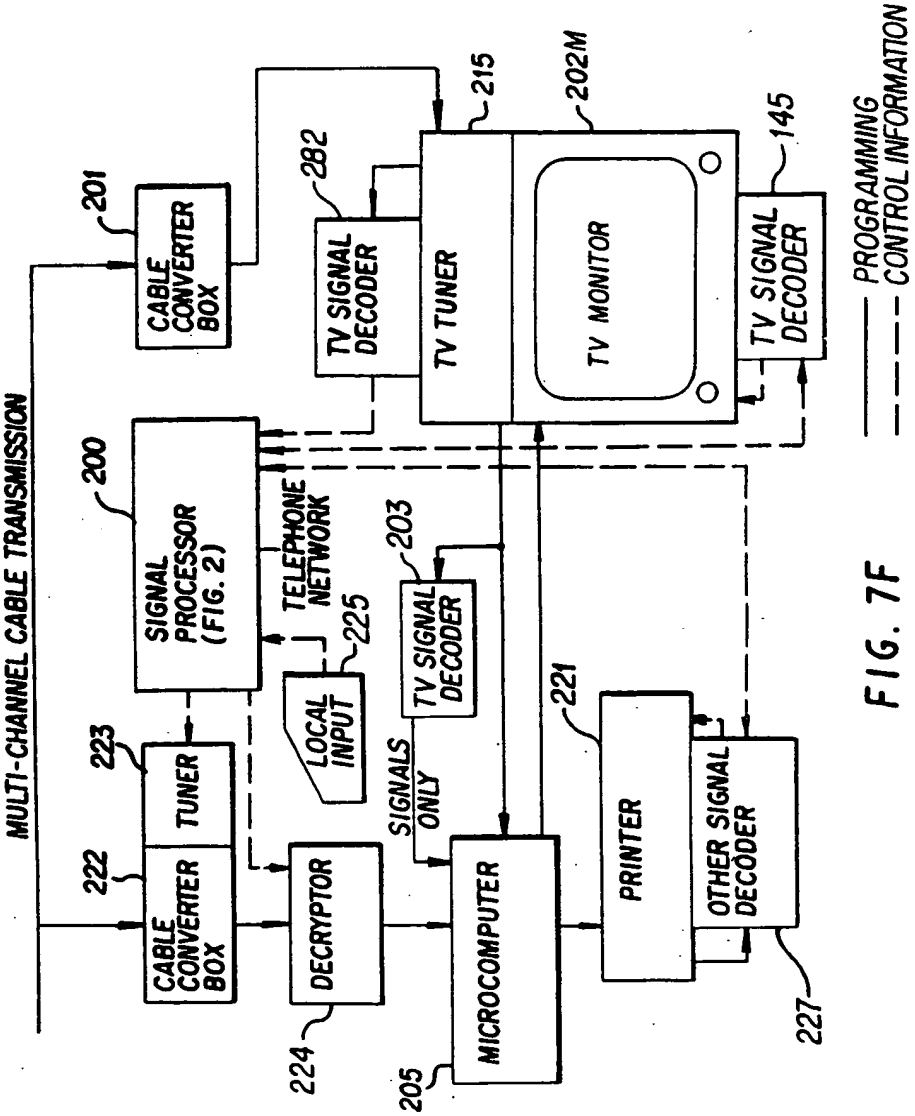
MULTI-CHANNEL CABLE TRANSMISSION
201
CABLE CONVERTER BOX
282
TV SIGNAL DECODER
215
TV TUNER
202M
TV MONITOR
145
TV SIGNAL DECODER
200
SIGNAL PROCESSOR (FIG. 2)
TELEPHONE NETWORK
225
LOCAL INPUT
203
TV SIGNAL DECODER
223
TUNER
222
CABLE CONVERTER BOX
DECRYPTOR
224
SIGNALS ONLY
MICROCOMPUTER
205
221
PRINTER
OTHER SIGNAL DECODER
227
PROGRAMMING
CONTROL INFORMATION

FIG. 7F

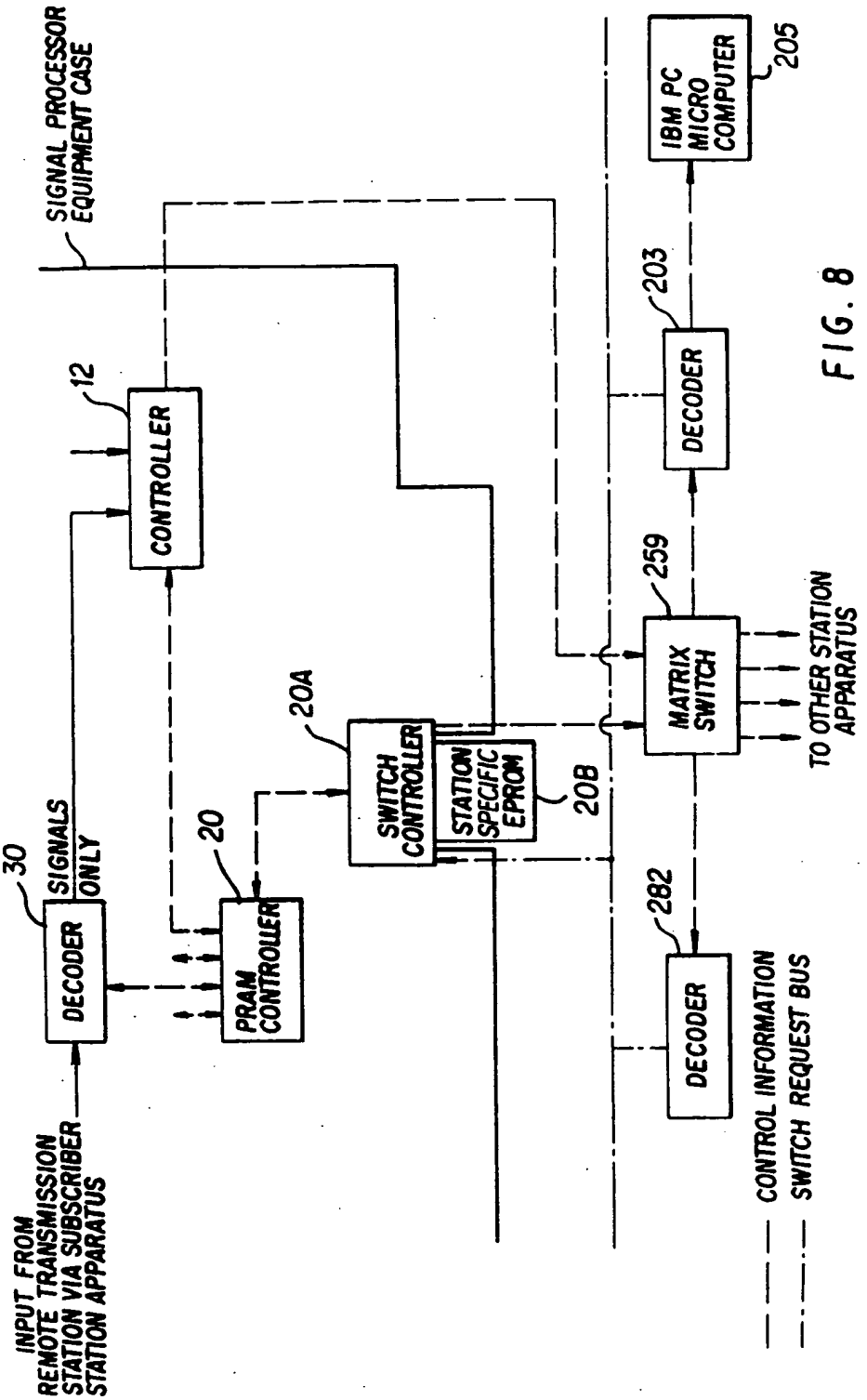
SIGNAL PROCESSOR EQUIPMENT CASE
IBM PC MICRO COMPUTER
205
12
CONTROLLER
203
DECODER
259
MATRIX SWITCH
TO OTHER STATION APPARATUS
20A
SWITCH CONTROLLER
STATION SPECIFIC EPROM
20B
20
PRAM CONTROLLER
30
SIGNALS ONLY
DECODER
282
DECODER
INPUT FROM REMOTE TRANSMISSION STATION VIA SUBSCRIBER STATION APPARATUS
CONTROL INFORMATION
SWITCH REQUEST BUS

FIG. 8